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| 10/696,425 | 10/28/2003 | Ling Cen | 42P15926 | 6796 |

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| EXAMINER |
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MARCELO, MELVIN C

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| ART UNIT | PAPER NUMBER |
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2616

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 04/03/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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|------------------------------|--------------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 10/696,425 | Applicant(s) CEN, LING | |
| | Examiner Melvin Marcelo | Art Unit 2616 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Drawings***

1. The drawings are objected to because the original drawings filed 10-28-2003 contained blacked out boxes in Figures 1-3. New drawings filed 5-3-2004 replaced the blacked out boxes with descriptive boxes. It is not apparent to the examiner whether the descriptive boxes constitute new matter. Applicant should specify whether they consider the new drawings to not contain new matter. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because it is not descriptive of the invention. Correction is required. See MPEP § 608.01(b).
3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

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The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The disclosure is objected to because of the following informalities: Applicant should provide the missing US serial number in paragraph 0002.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1, line 2, it is not clear what is meant by "reserving a single link unit or a packet." With respect to new Figure 2, the apparatus includes Tx Link Buffers 102 and Rx Link Buffers 104. What is the single link unit or a packet in this apparatus? Is "link unit" a standard term in the art?

Claim 1, line 3, it is not clear what is meant by "storing a plurality of buffer indexes of a plurality of link units." What is a "buffer index of a link unit" with respect to a 14x144 bits Tx Buffer or 68x144 bits Rx Buffer?

Claim 1, line 4, it is not clear what is meant by "sharing the remaining link buffers." What are the "remaining link buffers"? What is sharing and how is it sharing?

Claim 4, line 2, it is not clear how to create the "list of link units for a first VC."

Claim 5, lines 3-4, it is not clear what is meant by "a plurality of link buffers to be shared based at least in part on a link buffer or FIFO for each virtual channel" and where the support for this is in the disclosure.

Claim 5, lines 5-6, it is not clear what is meant by "buffers to be sized at least in part on a round trip delay." How does the round trip delay affect the buffer size?

Claim 7, lines 1-3, it is not clear how the apparatus facilitates the switch from a first VC's link buffer or FIFO to a second VC's link buffer or FIFO if the first VC's link buffer or FIFO is blocked. Where is the description of this function in the disclosure?

Claim 8, lines 3-4, it is not clear what is meant by "a plurality of link buffers to be shared based at least in part on a link buffer or FIFO for each virtual channel" and where the support for this is in the disclosure.

Claim 8, lines 6-7, the disclosure does not describe what constitutes a "predetermined function."

Claim 8, lines 6-7, it is not clear what is meant by "the reserved credit be utilized for a predetermined function if the shared VC buffer is used instead of the reserved credit" and where this is described in the disclosure.

Claim 10, lines 1-3, it is not clear how the apparatus facilitates the switch from a first VC's link buffer or FIFO to a second VC's link buffer or FIFO if the first VC's link buffer or FIFO is blocked. Where is the description of this function in the disclosure?

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Claim 11, lines 1-2, both “the predetermined function” and “performance critical use” is undefined in the disclosure. What is a “predetermined function” and what is a “performance critical use”?

Claim 12, lines 5-6, it is not clear what is meant by “a plurality of link buffers to be shared based at least in part on a link buffer or FIFO for each virtual channel” and where the support for this is in the disclosure.

Claim 12, lines 8-10, it is not clear what is meant by “the reserved credit be utilized for a predetermined function if the shared VC buffer is used instead of the reserved credit” and where this is described in the disclosure.

Claim 14, lines 1-3, it is not clear how the apparatus facilitates the switch from a first VC's link buffer or FIFO to a second VC's link buffer or FIFO if the first VC's link buffer or FIFO is blocked. Where is the description of this function in the disclosure?

Claim 15, lines 1-2, both “the predetermined function” and “performance critical use” is undefined in the disclosure. What is a “predetermined function” and what is a “performance critical use”?

Claim 16, lines 5-6, it is not clear what is meant by “a plurality of link buffers to be shared based at least in part on a link buffer or FIFO for each virtual channel” and where the support for this is in the disclosure.

Claim 16, lines 7-8, it is not clear what is meant by “buffers to be sized at least in part on a round trip delay.” How does the round trip delay affect the buffer size?

Claim 17, lines 1-3, it is not clear how the apparatus facilitates the switch from a first VC's link buffer or FIFO to a second VC's link buffer or FIFO if the first VC's link buffer or FIFO is blocked. Where is the description of this function in the disclosure?

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7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-4, 6, 8-11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 4, "the remaining link buffers" lack a proper antecedent basis since there is no prior recitation of link buffers.

Claim 4 appears to have a grammatical error since in line 2 "...is blocked, link layer..." appears to be misplaced.

Claim 6, it is not clear what is meant by "the apparatus is a link layer."

Claim 8, line 1, it is not clear what is meant by the preamble to "a link layer protocol." "Protocol" is defined by Newton's Telecom Dictionary (9th Edition) as "a procedure for adding order to the exchange of data. A protocol is a specific set of rules, procedures or conventions relating to format and timing of data transmission between two devices..." Applicant appears to be claiming "protocol" as an apparatus, which is inconsistent with its accepted meaning in the art.

Claim 9, lines 1-2, it is not clear what is meant by "the link layer is utilized as a means of communication to a physical layer."

Claim 13, lines 1-2, it is not clear what is meant by "the link layer is utilized as a means of communication to a physical layer."

Conclusion


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Scott et al. (US 5,958,017 A) and Dally et al. (US 2005/0018609 A1) teach prior art virtual channel buffer sharing.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 571-272-3125. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Melvin Marcelo
Primary Examiner
Art Unit 2616

April 1, 2007